

Monitoring Renewable Energy Projects financed by DGIS



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DGIS	Director General for International Cooperation	
DMW	Department Environment and Water (Directie Milieu en Water)	
MDG	Millennium Development Goal	
PREP	Promoting Renewable Energy Program	
SMEs	Small and Medium Enterprises	

Summary

Background: In developing countries 1.6 billion people have no access to electricity and another 2.5 billion people depend on use of traditional fuels. Investing in renewable energy might provide people with *access to energy*. Renewable energy has no negative effects on health, deforestation and climate change. The Ministry for Development Cooperation has programmed 500 million Euros to invest in renewable energy projects in developing countries. In order to justify means and to manage progress, these projects need to be monitored. The objective of this research is to contribute an output monitoring system for the PREP (Promoting Renewable Energy Program) which is financed by the Ministry for Development Cooperation. The research question is; *Which indicators are feasible to monitor the PREP financed by the Director General of International Cooperation?*

Methods: Two focus groups both with the same homogeneous group were conducted. The participants were selected by theoretic sampling. The topic of the focus group was: feasible indicators to monitor for policy domain x. Additionally two open-interviews were done with experts on monitoring and evaluation methods. When the monitoring sheet and manual were formed, feedback was asked from the executing partners.

Results: Different indicators were formed per policy domain. For the policy domain *direct investments* three indicators for the new monitoring system were formed: *access to energy*, *produced power* and *consumed power*. For the policy domain *capacity building* four indicators were formed: *the number of people trained*, *entrepreneurs trained*, *policy documents developed* and *publicity campaigns done*. For the policy domain *preserving biomass* and *policy influencing* no indicators were included in the monitoring system.

Conclusion: The indicators which were formed during the focus group are feasible because they form a practical and rather complete monitoring system to provide the relevant stakeholders, information on progress and output results.

Discussion: The results might be biased because the participants of the focus groups could have a certain monitoring theory since the aim of the system was known by them. However this monitoring was beneficial because this resulted in practical indicators which can be monitored. The face validity is high as well as the reliability however the results can not be generalized to other topics, because the output is very specific for the PREP.

Preface

In the curriculum of the Master '*Management Policy Analysis and Entrepreneurship in Health and Life Sciences*' an internship is part of the first year. The internship must entail 50% research. This report represents an overview of my research which is executed at the Ministry for Development Cooperation in The Hague. The research focused on output monitoring for renewable energy programs in the Promoting Renewable Energy Program (PREP). In the first chapter an introduction of the subject will be given followed by chapter two where the methodology of the research will be described. In the following chapter the results will be presented. The chapters 4 and 5 are respectively the Conclusion and the Discussion. In the annexes a description of the organization is included as well as the future monitoring system, the manual, a focus group report and reactions of executing partners.

I would like to thank the employees of the Department Water and Development for their support, especially the employees of the Cluster Energy: Fred Smiet, Tineke Roholl, Paula Dobbelaar and Jan Cloin. With special thanks to Fred Smiet who was my supervisor and Sabine Hausler, who assisted me during the focus groups. I also want to thank Sjaak Swart who was my first VU supervisor, I would like to thank him for his feedback and enthusiasm during the internship.

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Sofie Middelhoff

1.0 Introduction

This research is conducted at the Ministry for Development Cooperation within the Ministry of Foreign Affairs, in The Hague. The Ministry is divided in several director generals which are divided in departments. I was placed at the *Department Environment and Water* (DMW). The aim of DMW is to integrate the theme of environment into all components of Dutch development cooperation and is concerned with the environmental dimension of poverty reduction. For a more detailed description of the organization see Annex 1.

1.1 Background

Due to the increasing world population, pressure on natural resources increases and food and energy become scarcer (Policy statement; 2008 and World Bank; 2008). For centuries fossil fuels have been used as the main source of energy provision. However, if technology is remaining constant and if overall quantities are increasing, the resources will become scarce (Bilgen et al.; 2006).

Scarcity of energy and food could possibly lead to an imbalance between demand and supply which can lead to conflicts (about energy and food). Consequently expensive import of energy and foods are felt the most in developing countries because these countries are more vulnerable for price fluctuations. In 2008 the world has experienced an average food price increase of 15 percent. The poor are especially affected because a relatively large part of their income is spent on food and energy (World Bank; 2008).

Besides the challenges scarcity bring along, climate change is also a mayor challenge. Climate change can pose risks for the environment and for development, so it is important to create a sustainable environment. This is essential for durable economic growth and for poverty alleviation. Visa versa economic growth and poverty reduction can lead to a sustainable environment when developing countries improve their access to modern energy and renewable sources (World Bank; 2008). There are two measures to limit climate change, adaptation and mitigation. Adaptation entails adjustments to limit negative effects of climate change for example making a dam to limit flooding. Mitigation is preventing climate change, renewable energy is an example because by using renewable sources no CO₂ will be produced and renewable energy has no other negative effects.

According to Tharakan (2007) the Millennium Development Goal (MDG) of lowering poverty by half in 2015 will not be attained unless the poor in developing countries gain greater access to basic services and infrastructure including energy services. Access to modern, reliable and affordable energy services is therefore an important condition for economic development and is necessary to achieve the MDGs; it is important to support economic growth, healthcare, education, communication and transport (Policy statement; 2008 and UNDP; 2007 and Modi et al.; 2005). There are 1.6 billion people in the world, who do not have access to electricity. Another 2.5 billion people use traditional fuels to fulfil their basic needs like cooking and heating (UNDP; 2007). It is estimated that in 2030, 1.4 billion people still have no access to energy and that 2.6 billion people are dependent on traditional fuels (Makoto & Toshihiko; 2006).

Carbon emitting biomass and fossil fuel energy are the traditional energy sources which are used within this population (World Bank; 2008). Traditional fuels have a negative effect on climate change due to a CO₂ emission. Use of traditional energy resources can also lead to deforestation, and this can cause changes in the ecosystem (World Bank; 2008). Traditional fuels have a major burden on health because, they are also a major source of indoor air pollution, which is caused by indoor combustion of solid fuels such as biomass and coal for heating and cooking. People who spend a lot of time indoors are exposed to a serious health threat and have a greater risk on respiratory diseases. The most vulnerable group include women and young children because they spend much time near the fire (www.who.int).

To supply people in developing countries with energy and to mitigate the climate change, renewable energy can be a good option to invest in (UNDP; 2007). Renewable energy can contribute to the world energy supply security, can mitigate greenhouse gases and has the capacity of reducing dependency on fossil fuel resources (IEA, 2007). Renewable energy can also decrease the large burden of disease by improving air, water and food quality (Haines et al; 2007). Cleaner household fuels can decrease respiratory disease. Energy and electricity are also necessary for the expansion of health clinics and water treatment facilities (UNDP, 2007). Energy can also reduce waterborne diseases by powering equipment of pumping and boiling of water.

No access to energy can limit women's capacities, opportunities and empowerment, because obtaining traditional fuels is often a primary responsibility of women and girls in developing countries. This time consuming and high burden physical task limits women's opportunities for education, literacy and the acquisition of new skills as well as time to engage in income generating activities. Availability of modern fuels for cooking and heating, as well as gaining access to electricity could increase the ability to engage in productive enterprises and earn additional income, thereby reducing poverty and hunger and raising standards of living, especially for women (UNDP; 2007).

The World Bank states that environmental sustainability must be integrated into core development work (World Bank; 2008). Over the years countries increasingly incorporated environmental sustainability into their growth and development strategies which include energy access and international financial institutions have expanded their environmental activities extensively over the years (World Bank; 2008). For the period up to December 2013, the current Dutch government made 500 million Euros available to invest in renewable energy. The policy paper of the Ministry for Development Cooperation defines renewable energy as *energy of renewable sources, like solar energy, hydro energy, wind energy, biogas, geothermal heat and sustainable produced biomass. This definition includes production as well as distribution and efficient use of energy. Despite of the fact that clean and efficient use of fossil fuel and energy saving activities reduce greenhouse emission, these energy sources are non renewable energy resources* (Policy statement, 2008).

The Ministry for Development Cooperation have budgeted and programmed 500 million Euros to invest in renewable energy projects in developing countries in 2008-2013, focusing on four domains:

- 1) Direct investments in renewable energy
- 2) Preserve the production of biomass for energy purposes
- 3) Influencing policy of important actors in the field of energy
- 4) Capacity and knowledge building in the field of renewable energy

By financing investment programs for the production of energy, access to energy and efficient use of energy, the first domain, *direct investments* is attended. For this domain 470 million euro's are made available. The second domain, *preserving biomass*, entails stimulation and support of sustaining biomass production for energy purposes which entails 30 million euro's. The domain influencing policy of important actors in the field of energy is mainly the task of the employees of the energy cluster. Effort of all development cooperation partners is needed to enable a transition to a renewable energy supply. By attending the last domain capacity and knowledge building is tried to increase the capacity and knowledge in developing countries about renewable energy. No money is made available to finance this domain however this domain is captured in parts of other domains. A lot of programs that are executing under domain 1 also address capacity building. These four domains form the Promoting Renewable Energy Program (PREP)

In total 36 activities of the PREP are planned to contribute to one or more of the four domains. The overall aim of PREP is to enable developing countries to develop and carry out good policy for renewable energy (Policy statement, 2008). In the previous term of the government, the aim was set to supply 10 million people with modern energy sources before 2015. Since 2004 activities are executed to contribute to this objective. In the PREP several investments contribute to this output objective as well. The new monitoring system will still monitor

this objective. However besides monitoring the 10 million target, this new monitoring system will also monitor other output. Thus the focus of this research is output monitoring of all four domains, including the 10 million output objective. Output can be defined as *the products and services which result from the completion of activities within a development intervention* (OECD; 2002a). The following can be seen as a result chain: Input → Activities → Output → Outcome → Impact. The focus of this research will be the output phase.

1.2 Problem definition and research question

The activities executed under the PREP need to be monitored. The current monitoring system is based on information from the PIRAMIDE and year reports. The PIRAMIDE is an internal used database system of DGIS, in which all important features of activities are stored. Year reports are annual reports that are submitted by executing partners. In the reports progress is described. The 10 million output goal is monitored as well. This information is in principle sufficient to conduct a policy evaluation at the end of this term of the cabinet. The reason to intensify the efforts regarding monitoring is the justification of the additional resources to the Second Chamber and to obtain compact information about the progress of the activities to determine the progress and to predict the future effects of activities. Summarized the monitoring system can be used for justification of investments and to manage activity progress. Besides monitoring PREP, DMW also wants to maintain the monitoring regarding the 10 million output target.

The *objective* of this research is to contribute to the development of indicators for an output monitoring system for the Promoting Renewable Energy Program (PREP) by the Director General for International Cooperation.

Research question

Which indicators are feasible to monitor effects on output level regarding renewable energy projects in developing countries?

Sub-questions:

- Which indicators are being monitored at the moment?
- Are there indicators which need adjustment?
- Which additional indicators should be monitored in projects regarding renewable energy?
- Why should selected indicators be monitored?
- Why did certain indicators drop out?
- How should output be monitored at activity level?
- How should output be monitored at portfolio level? How can information from activities be aggregated?

In table 1 a list of definitions is displayed with the most important definitions to be able to read the report.

Table 1 Definitions (OECD/DAC, 2002)

Renewable energy	Energy of renewable sources, like solar energy, hydro energy, wind energy, biogas, geothermal heat and sustainable produced biomass
Activities	Actions taken or work performed through which inputs such as funds, technical assistance and other types of resources are mobilized to produce specific outputs.
Baseline	Facts about the condition or performance of subjects prior to treatment or intervention
Baseline study	An analysis describing the situation prior to a development intervention, against which progress can be assessed or comparisons made
Data	Specific quantitative and qualitative information or facts
Evaluation	A time-bound exercise that attempts to assess systematically and objectively the relevance, performance and success, or the lack thereof, of ongoing and completed programs. Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or program managers, and to provide information on whether underlying theories and assumptions used in program development were valid, what worked and what did not work and why. Evaluation commonly aims to determine the relevance, validity of design, efficiency, effectiveness, impact and sustainability of a program.
Impact	Positive and negative long term effects on identifiable population groups produced by a development intervention, directly or indirectly, intended or unintended. These effects can be economic, social-cultural, institutional, environmental, technological or of other types.
Indicator	A quantitative or qualitative measure of program performance that is used to demonstrate change and which details the extent to which program results are being or have been achieved. In order for indicators to be useful for monitoring and evaluating program results, it is important to identify indicators that are direct, objective, practical and adequate and to regularly update them.
Input	The financial, human, material, technological and information resource provided by stakeholders (i.e. donors, program implementers and beneficiaries) that are used to implement a development intervention
Monitoring	A continuous management function that aims primarily at providing program managers and key stakeholders with regular feedback and early indication of progress or lack thereof in the achievement of intended results Monitoring tracks the actual performance against what was planned or expected according to pre-determined standards. It generally involves collecting and analyzing data on program processes and results and recommending corrective measures
Objective	The intended physical, financial, institutional, social, environmental, or other development results to which a project or program is expected to contribute.
Outcome	The intended or achieved short and medium-term effects of an intervention's outputs, usually requiring the collective effort of partners. Outcomes represent changes in development condition which occur between the completion of outputs and the achievement of impact.
Output	The products and services which result from the completion of activities within a development intervention.

1.3 Conceptual framework

Monitoring and evaluation are closely interlinked; monitoring is not very useful if the results are not evaluated and evaluation is difficult when monitor data are missing. Monitoring and evaluation should be an integral part of the project cycle. Monitoring and evaluation are essential for knowing how effective and realistic an activity is. Monitoring could be done to make sure that the implementation of the project is executed according to plan, to identify further areas of support and to provide baseline information for the evaluation. The aim of monitoring is to establish whether resources invested and processes and outputs anticipated are proceeding according to plan.

Different definitions are used for monitoring, the OECD (2002a) defines monitoring as *a continuous function that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives an progress in the uses of allocated funds*" Kusek & Rist (2004) have a slightly different but comparable definition: *"Monitoring can be viewed a periodically measuring progress toward explicit, short, intermediate and long term results. It also can provide feedback on the progress made (or not) to decision makers who can use the information in various ways to improve the effectiveness of government."* In this research the definition of the OECD will be used.

Monitoring gives information on the progress of the activities, in intent it is descriptive, while evaluation seeks to address issues of causality. An output evaluation has the purpose to assess the state of the intervention and outputs of activities. An evaluation demonstrates the projects achievements to outsiders and can inform policy making and advocacy. Evaluation is complementary to monitoring; monitoring information can result in good evaluative information by providing realities and trends. OECD 2002a defines evaluation as follows:

Evaluation is the systematic and objective assessment of an ongoing or completed project, program or policy including its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision making process of both recipients and donors.

Monitoring and evaluation have different purposes but are both based on the same common logic of the project plan. Data assessed during monitoring will enhance some core indicators for reporting and evaluation (GTZ; 2007 and OECD; 2002).

Monitoring in the project cycle

A project cycle (figure 1) entails an objective, planning phase, implementation phase, monitoring and evaluation. The cycle starts with a certain need which leads to an objective. When an objective is formed, a logical framework is commonly used to guide the planning an implementation phase of projects. In a logical framework the outcome, output, activities and input is described during the planning phase. The framework provides a tool to formulate the inputs which are necessary to implement activities. When the activities are executed the direct results can be seen as output. This output results can contribute to the outcome of the activity (GTZ; 2007). In this research a monitoring sheet will be developed to monitor results on output level.

Governments and organizations experience pressure to be more responsive to the demands of internal and external stakeholders for good governance, accountability and transparency, greater development effectiveness and delivery of tangible services. Different stakeholders are interested in ensuring investments are achieving desired results (Kusek & Rist, 2004). The different stakeholders involved in this research are the Second Chamber, the Minister for Development Cooperation and DMW.

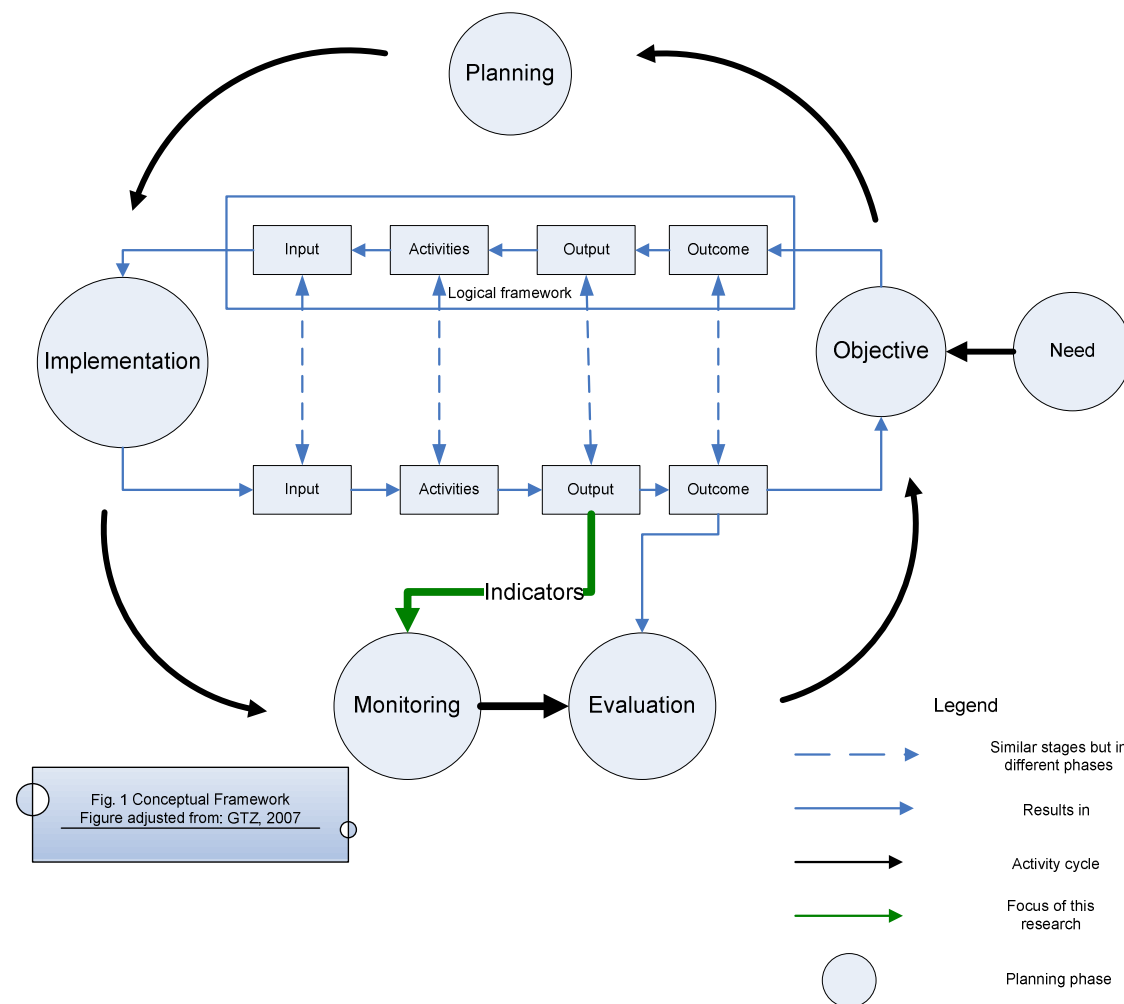
A Monitoring and Evaluation system is important to answer fundamental questions of whether promises were kept and outcome achieved, to justify the investments there is a need for measurement. Result reporting

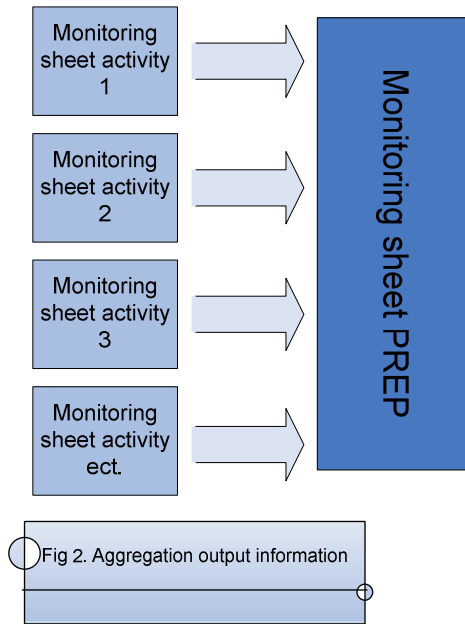
can be useful in the field of the competition for funds; successful results can convince the Parliament that activities produce results and provide 'value of money'. Result information can also be used for internal purposes: identify areas of improvement and decision making. At DGIS/DMW result information can be used in policy formation, activity planning and budget allocation processes (Kusek & Rist, 2004).

A distinction can be made to monitoring at activity level and at portfolio level. The information obtained from the activity level should be aggregated to be able to monitor the entire PREP. This means that different activities should be monitored similar to monitor and evaluate the whole PREP (see figure 2). Monitoring results at portfolio level can be used for justification to the parliament and monitored results at activity level can be used for progress management.

Indicator characteristics

Indicators should be formulated realistically as they are used for monitoring purposes. In the process of developing indicators certain criteria should be taken into account. Indicator should be formulated SMART; specific, measurable, achievable, realistic and time bound (GTZ; 2007). Furthermore the indicators should be comprehensive, concise and verifiable. The indicators should also be policy relevant; they should generate the information needed to be able to monitor progress towards agreed targets and objectives (DMW, Water cluster 2005). The information obtained from the different activities should be aggregated, to get a view on the achievements of the whole PREP; the indicators should be suitable for aggregation.





2.0 Methodology

2.1 Research methods

A combination between desk-research and qualitative research is used in this research. In the first month mainly desk-research took place to gather relevant background information about the subject. A combination between scientific literature and other documentation was used. Scientific databases that were used are '*Scholar Google*', '*Science Direct*', '*UBVU*' and '*Picarta*'. Other documentation like policy statements and policy documents were also used in this research as well as websites of organizations, institutes and partners of DGIS. To get more information about procedures used within the department, questions were asked to policy advisors to obtain information; this empirical information was also used as an information source.

The objective of this research is to contribute to an output monitoring system for the Promoting Renewable Energy Program (PREP), financed by the Director General for International Cooperation. The steps undertaken to develop the monitoring system are the following

1. Collect indicators for each objective (literature, archive and focus groups);
2. Define definitions regarding objectives and indicators (focus groups and literature);
3. Verify the quality of indicators (Interviews);
4. Develop a sheet for each projects with planning, activities, results;
5. Involve executing partners in the process.
6. Develop a overall sheet where information can be obtained;
7. Write a monitoring manual.

To achieve steps 1 and 2 qualitative research took place in the form of focus groups. The interviews contributed to step 3. By asking executing partners feedback on the new monitoring system, step 5 is addressed.

2.2 Focus groups

A focus group is a meeting of individuals who discuss a specific topic (Kitzinger; 1995). The objective of the focus group was to identify which output indicators of the PREP should be monitored for justification and progress management and more important *how* and *why* these indicators should be monitored. The focus groups focused on output indicators of the renewable energy projects. A focus group was chosen as a method because it is a method where discussion can take place between the participants. All participants have knowledge of and experience in project. A focus group is also beneficial in this scenario because a collective set of indicators can be formulated and acceptance of the monitoring system can be created. A focus group can also result in more information compared with an interview because participants can react on each other; a focus group is therefore a good method to get in depth information (Stewart; 2007).

Sampling

Two focus groups were organized with the same homogeneous group. A precondition for attending the focus group was familiarity with the activities of the PREP. A heterogeneous feature of the participants is the different energy activities which they are responsible for. The participants were selected by theoretical sampling; they have knowledge about the subject and can be seen as an expert. Experts from the Energy cluster were placed in a focus group to stimulate, discussion and interaction. To get more in depth information the participants of the focus group were brought together again to discuss some aspects which were not attended within the previous focus group or which needed more discussion.

Conducting the focus group

The first focus group consisted out of three parts, the brainstorm-, cluster- and prioritize phase. The focus group started with a brainstorm. Every participant was asked to write down two indicators which are important to monitor. This was done per policy domain for the policy statement, *direct investments*, *capacity building*, *preserving biomass* and *policy influencing*. A benefit of the write-down exercise is that all group members have their say and possible dominant participants will not bias the discussion (Kupper; 2007). Each participant was asked to explain the indicator in the brainstorm phase. Because of the wide range of indicators, participant got lists of possible output indicators after the brainstorm session. The participants were asked to place critical notes with this list, again per domain. These lists were not given on fore hand because that will limit out of the box thinking. The indicators were adjusted according to the group's suggestions during the focus group. After a discussion the indicators were clustered when needed per domain. In the last round the participants were asked to mark the most important indicators per domain.

In the second focus group topics which were not attended or topics that needed more discussion were subjects for discussion. This enhanced definitions and further elaboration on indicators. In the first focus group definitions were not attended, to diminish bias in the second focus group, defining definitions and concepts was an additional input for discussion. The participants have been given an overview of the indicators which were proposed during the first focus group, this was the input to discuss the importance, achievability and the meaning of the indicators.

Setting

The focus group took place in a conference room at the ministry of Foreign Affairs in The Hague. The location was familiar to the participants and easy to reach. The participants sat in a circle (See figure A4) which stimulates dialogue and discussion (Kupper; 2007). There were beverages to make to participant at ease.

Analysis

The focus group was recorded on a voice recorder and an observer tracked the group dynamics. The audio tapes were written down by using Microsoft Word. The transcripts were analyzed using pattern matching (Rabiee; 2004). In the process of the structural analysis, several phases were conducted:

1. Exploration
2. Specification
3. Reduction
4. Integration

In the first phase (exploration), the transcripts were individually explored by researchers. During this exploration, the researchers read the transcripts globally to get a first impression of important indicators. In the second phase (specification), the transcripts were investigated more thoroughly and the coding system was adapted. In this phase the researchers defined, ordered and coded the several text fragments. The coding labels (see table 2) were set on beforehand, the fragments can be divided under these *labels*. If fragments can not be classified under a label, new labels can be defined. During this part of the process notes were made to clarify the meanings and definition of the label (Rabiee, 2004).

Table 2 *Labels* used in the focus group analysis

Indicators
Reason for inclusion
Reason for exclusion
Discussion on in- or exclusion
Measurement of indicators
Definitions of indicators
Time restriction of indicators
Organization
Relation of indicators to objectives
Additional indicator beside objectives
Definitions of policy domains

In the third phase (reduction), the fragment positioning, memos and extra labels are linked. Finally in the last phase (integration), the researchers tried to understand the context of the data and tried to research question: Which output indicators should be monitored in projects regarding renewable energy, why and how?

In the following section a more detailed description is given of the analysis:

Step 1 Transcription

The audiotapes were written out in transcripts.

Step 2 Exploration phase

In the exploration phase the transcripts were read to get a global view on the results.

Step 3 Specification and reduction phase

In the specification phase the coding system was adapted.

At the start of the specification phase labels from table 2 were used: In a later stadium it became more practical to make revise the label *indicator* in *excluded indicators* and *selected indicators*. The in- and excluded indicators were discussed during the first and second focus group therefore a subdivision was made in focus group 1 and 2. This resulted in the following coding tree:

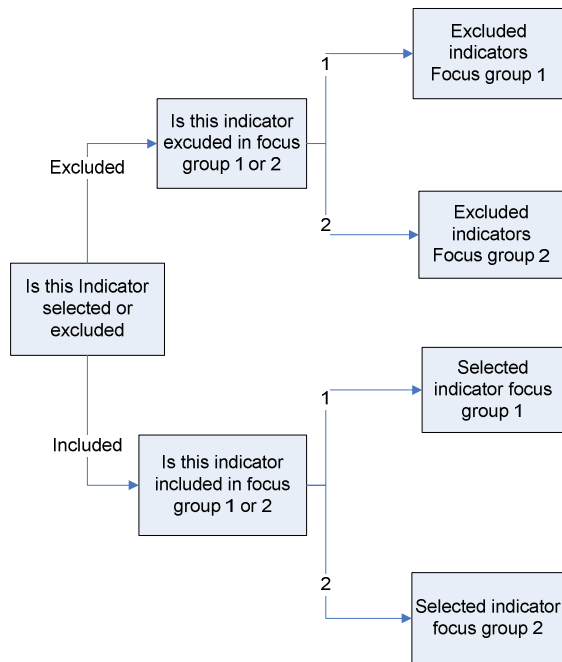


Figure 3: Coding tree

The following step was to select *reasons for inclusion and exclusion*. This label was not adjusted.

The label *measurement of indicators* entails quotes which addressed the way how indicators should be measured, for example which unit needed to be used. Under this label quotes that addressed subdivisions of indicators were also placed.

The labels *definitions of indicators* and *definitions of objectives* were not adjusted and used to collect quotes which addressed the clarity of respectively indicators or objectives (domains).

The label *relation of indicators to objectives (domains)* was used to place the indicators under the correct policy domain. The label *time restriction of indicators* was not used because this was often seen as a reason for exclusion. Under the labels *addition indicators besides objectives* and *organization* no quotes were placed.

Step 4 Interpreting phase

The exploration and reduction phase lead to the following categories:

- *Selected indicators in focus group 1*
- *Selected indicators in focus group 2*
- *Excluded indicators in focus group 1*
- *Excluded indicators in focus group 2*
- *Reason for inclusion*
- *Reason for exclusion*
- *Measurement of indicators*
- *Definitions of indicators*
- *Relation of indicators to objectives*
- *Definitions of policy domains*

In this phase each indicator (selected or excluded) was connected to the specific reason for in- or exclusion. This was done to be able to see the discussion which took place about a certain indicator. In interpreting this discussion attention is paid to the intensity of words to interpret the data correctly. Words like: '*absoluut*', '*zeker*'

and '*belangrijk*' are examples of words which describe the intensity of words. By linking the label *selected indicators*, to the label *measurement of indicators* it became clear how indicators should be measured and which subdivisions are feasible. For example, under the label *selected indicators FG1* the indicator *access to energy* was formed. The indicator was linked to relevant (statements which addressed the indicator *access to energy*) statements that were placed under the label *selected measurement of the indicator*. The following concepts came forward for this specific indicator: *the number of connections*, *application* which was divided in lighting, cooking, social institutions, *productive use* and *technology type* which was divided in solar, wind biomass, hydro, geothermic, grid and biogas.

The same was done for the indicator access to energy of the second focus group. To this label the following selected measurement of indicators came forward: *the number of connections*, *the number of people counted* and application: lighting, cooking, lifespan and social institutions. A clear distinction between the first and second focus group can be observed, this is discussed in the result section more in detail. This process was done for all indicators: selected and excluded indicators. After this the formed indicators were placed under the correct policy domain.

2.3 Interviews

After conducting the focus groups and setting up a preliminary monitoring system, two interviews were conducted with monitoring experts to get feedback on the developed indicators and improve the monitoring system. These interviews were open-structured with one starting question, what do you think about the proposed monitoring system? After this question the interviewer tried to obtain information for the improvement of the monitoring system. These interviewees were chosen because they have a lot of knowledge about monitoring and evaluation. They can be seen as experts.

2.4 Involving executing partners

When the monitoring system and the monitoring manual were developed, executing partners were asked to give feedback. This was done by email because some of these partners live abroad. The organizations which are contacted are the Dutch embassy in Rwanda, ETC International group and GVEP (Global Village Energy Partnership).

3.0 Results

In this chapter the results from the focus groups are addressed. In the first section the definitions formulated during the focus groups are described. In section 3.2 the indicators formulated per policy domain are discussed, during respectively the first and second focus group. Some indicators are highlighted and quotes are displayed to illustrate the focus group results. In section 3.3 the results from the interviews are displayed and in the final section the feedback of the executing partners is addressed.

3.1 Definitions

During the first focus group definitions of policy domains and concepts were discussed. Since these definitions were not always clear, the facilitator decided to address the definitions explicitly in the second focus group. In the second focus group a definition was formulated for the policy domains *direct investments* and *capacity building*. The following definition for *direct investments* was formulated: "the investments in hardware, related to renewable energy technology." The following quote illustrates this definition:

“(…) Bij directe investeringen denk ik echt aan hoeveel euro’s er zijn geïnvesteerd in bijvoorbeeld zonnepanelen, biogasinstallaties dat soort dingen dus tastbare dingen. Dus dan kan je vragen hoeveel geld is er daadwerkelijk want ik denk niet dat als je naar onze programma’s kijkt dat heel veel geld uiteindelijk best wel gaat naar projectmanagement, capaciteitsopbouw organisaties bij elkaar brengen allemaal dat soort zaken en dat er ik denk dat het best wel belangrijk is om te weten hoeveel geld er nou daadwerkelijk naar dat tastbare zonnepaneel is gegaan (…) (Participant 2).”

The definition for *capacity building* was not clear during the first focus group. At the start of the second focus group the facilitator proposed the improved definition for *capacity building*. The participants agreed on the definition and no changes were made, this resulted in the following definition: planned investments in capacity building includes planned costs for trainings, courses, publicity campaigns, the set up of businesses and the development of national and regional policy documents.

3.2 Indicators

3.2.1 General indicators

During the second focus group a preliminary monitoring matrix was given to the participants. This also entailed a section of general, not policy domain specific, aspects. The participants decided that in the general part of the monitoring system, the executing parties should fill in the amount of money that is invested in *direct investments*, *capacity building* and *preserving biomass* with a subdivision in the amount of DGIS investments, other ODA countries investments and non ODA investments. The participants also stated that it was useful to include a realisation aspect besides the planned investment. The executing parties should report the realization costs (*direct investments*, *capacity building*) and indirect costs (overhead costs and material costs). The participants mentioned that costs per connection can be calculated when this information is available.

3.2.2 Direct Investments

In this section the results for the domain *direct investments* are presented. The results from the first and second focus group will be discussed in respectively section 3.2.2.1 and 3.2.2.2. First, indicators which are chosen in the focus group are presented followed by argumentation of subdivision and reason for in- or exclusion.

3.2.2.1 Results Direct investments Focus Group 1

The financed activities under the domain direct investments related to investments in the production of energy, the provision of access to energy and the efficient use of energy. In the first focus group the following indicators were selected by the participants to be part of the monitoring system.

- *Produced power*: the power which is generated by installations which are financed by DGIS
- *Consumed power*; the produced power which is used
- *Access to energy*: the number of beneficiaries which have access to renewable energy

In the following section the argumentation for the formulation of the indicators *access to energy*, *consumed power* and *produced power* is discussed, quotes are given to illustrate a decision.

Box 1 The current counting methodology

Since 2004 the 10 million output indicator is monitored, which counts the number of people who have *access to energy*. The output objective is set in 2004, at that time Agnes van Ardenne was the Minister for Development Cooperation who focused on supplying 10 million people with access to modern energy; this entails non renewable and renewable sources. Currently the following principles form the basis of the counting methodology: a distinction has been made in a) Electricity for light, enough light to read with for minimal five hours a day and b) Energy for cooking and heating; cooking stoves must at least save 50% on fuels. One connection on household level counts five people provided with access to renewable energy. This assumption is based on an article of Bongaarts (2001). Access to modern energy services for social infrastructure is not counted separately. When a hospital is connected, 250 people have *access to energy* according to this counting methodology.

Since 2008 the new Minister for Development Cooperation, Bert Koenders, specified the output objective, emphasizing on renewable energy sources for *access to energy*. This may have consequences for the counting method currently used for the output objective.

Of importance was the discussion about the indicator *access to energy*, which entails the concepts, *new connections, technology type and application*. This indicator is already monitored in the current system (See box 1). In the first focus group participants suggested that the counting method needs to be adjusted. The following quotes support this:

"(...) Het punt is dat we die definities moeten aanpassen en breder trekken. De definitie die we hanteren voor de 10 miljoen doelstelling is een hele specifieke die halen we sowieso wel (...) gezamenlijke aansluitingen en productive use wordt niet geteld op dat moment. Gewoon een herdefinitie dat we die andere dingen ook mee kunnen tellen (Participant 4)."

" (...) Mijn punt is dat je aantallen kan tellen binnen de soorten en wat we nu doen is soorten bij elkaar optellen. (Participant 3) Prima helemaal goed, dat zou denk ik ook een verbetering zijn (Participant 1)."

" (...) We hebben drie dingen: aantallen, type technologie en soort gebruik. En over alles moeten we nog eens goed nadenken voor een definitie (Participant 1)."

From these three quotes, addressing the indicator *access to energy*, three sub concepts can be subtracted for the indicator *access to energy*: (a) the number of connections, (b) the technology used to realize the connection and (c) the application for which the connection is used. During the focus group the assumption of the number of people reached (See box 1) was not addressed, so this assumption stays the same: each connection on household levels connects five people and each social institution connected will count 250 people. This discussion resulted in the following matrix for *access to energy*:

Table 3 Matrix Access to energy after FG1 (C = connection, # = number of)				
Application →	Lighting	Cooking	Social Infrastructure	Productive Use
Technology type ↓	(C*5) = # people	(C*5) = # people	(C*250) = # people	No calculation developed
Solar				
Wind				
Biomass				
Hydro				
Geothermic				
Grid				
Biogas				
Total # people with access to renewable energy				

The participants agreed to include the indicators power produced and consumed power. The unit to measure produced power is *Kilowatt* and the unit to measure consumed power is *Kilowatt Hour*. The participants decided to include the subdivision *technology type*. This resulted in the following matrix which was used during the second focus group.

Table 4 Matrix kW and kWh after FG1						
<i>Technology type →</i>	Solar	Wind	Biomass	Geothermic	Hydro	Total
<i>Power produced (kW)</i>						
<i>Power consumed (kWh)</i>						

In the first focus group several indicators were excluded (in Annex 4 an overview of indicators and subdivisions can be found), the reasons for the exclusion of concepts were:

- Achievability: the participants stated that it is not achievable to monitor these concepts for the partners that execute the activities financed by DGIS;
- Realistic: the participants stated that it was not realistic to measure some concepts, for example due to the high burden for partners to monitor them;
- Not-representative: some indicators were not representative for the investments of DGIS. The results achieved were not directly attributable to the DGIS investment;
- Not relevant: some indicators were not relevant and seen as too comprehensive to monitor.

For example, the percentage renewable versus fossil fuels was not seen as a feasible indicator because it is possible that the amount of renewables rises while the amount of fossil fuel rises as well. The percentage stays the same whereas in fact something has changed. The group discussed the possibility to include the amounts in stead of percentages but this was seen as unachievable and not attributable to the investments of DGIS (DMW), the following quotes illustrate the exclusion of the concept:

“Dat is ook een methodologisch probleem. Wij overzien het niet precies, het energie beleid van een land, dat volgen wij niet. We kunnen dat hooguit in een paar landen volgen. Indonesië en Rwanda waar we een sectorale benadering hebben. Maar verder in heel veel landen weten we dat niet (Participant 1).”

“Maar de uitgangssituatie is natuurlijk x% dit en x% dat en je kunt kijken naar de impact die je daarop hebt. Maar de vraag is in hoeverre je dat zelf veroorzaakt hebt. Daarom zou ik hem hier los laten (Participant 3).”

3.2.2.2 Results Direct Investments Focus Group 2

A preliminary monitoring matrix was used to verify if the interpretation of the facilitator was correct and to guide further discussion of indicators and concepts. The following indicators were selected during the second focus group: *Produced power, consumed power and access to energy*. This is not different compared to the first focus group. The indicators *Produced and consumed power* sustained during the second focus group with the subdivision in *technology type*. The units of the indicators were not adjusted as well. However there were some changes in the subdivision of access to energy. In the following section this adjustment is described.

Access to energy

During the second focus group participants discussed the counting methodology for *access to energy* once more. In the second focus group adjustments were made to the monitoring matrix (table 3). The participants decided that segmentation in *technology type* was not useful for the monitoring matrix because this is not an aspect which can be influenced easily because the technology type used is often very region specific. The additional information obtained would not be equivalent to the burden projects will have to collect information.

The participants also stated that the improvement of the counting method currently used means specification of definitions and another unit to measure social infrastructure. The participant suggested that the threshold to be counted as people with access to renewable energy has a new aspect i.e. the life span of the device. This resulted in the following criteria: *access to renewable energy = electricity: enough light to read for 5 hours a day (current definition), the minimal lifespan of the devices is 2 years (additional aspect)*. The number of people per household has not changed, so when a device has a lifespan of one year this will be counted as ½ connection thus will supply 2,5 people with *access to energy* whereas a lifespan of 2 years is counted as 1 i.e.: 5 people provided with access to renewable energy.

Another change concerns the cooking stoves. Strictly speaking improved cooking stoves are no renewable energy source. However the number of improved cooking stoves was seen as a very important aspect in poverty alleviation by the participants and should therefore be reported under the domain *direct investments* and will still contribute to the 10 million output goal according to the participants. The efficiency threshold for improved cooking stoves is adjusted from 50% to 35% because experience of the participants learns that a threshold of 50% is too ambitious.

Participants mentioned that it is questionable to count 250 people having *access to energy* when a social institution has an energy connection. Therefore the participants decided that energy connections for social infrastructure are no longer used as a measure for the number of people for the 10 million output target but will be used as a separate measure instead (See Annex 3 explanatory notes).

Exclusion

In the first focus group the term application (subdivision of the indicator *access to energy*) was divided in lighting, cooking, social infrastructure and productive use. Productive use was seen as an important indicator but was excluded because a good definition for productive use could not be found and because it is difficult to measure. In a conversation with a partner of DGIS, who has a lot of experience in monitoring the number of new connections, it also came forward that it is difficult to count productive use. Connections can only be counted as productive use if a shop is connected to an energy source. In table 5 the results of the first and second focus group are combined.

Table 5 Overview of the selection of concepts FG1 and FG2 for the general indicators and direct investments

Concepts from FG1 and FG2	Indicators in Focus group 1			Indicators focus group 2	
	Subdivision of indicator focus group 1			Subdivision of indicators focus group 2	
General part					
Planned investments				S	
- Direct investments					S
- Capacity building					S
- Preserving biomass					S
Realised investments				S	
- Direct investments					S
- Capacity building					S
- Indirect Costs					S
Costs per connection					S
Direct investments					
Access to energy	S			S	
Number of connections	S			S	
Application			S		S
- Cooking			S		S
- Lighting			S		S
- Productive use			S		N
- Social Institutions			S		S
Technology type (Access)			S		N
Household level			S		S
Label			S		N
Lifespan			N		S
Produced power	S			S	
Kilowatt			S		S
Technology type (kW)			S		S
Consumed power	S			S	
Kilowatt Hour			S		S
MS = Monitoring system S = Selected N = Not selected					

3.2.3 Capacity Building

In the following sections the domain Capacity Building will be discussed. In section 3.2.3.1 the results from the first focus group are discussed and in section 3.2.3.2 the results from the second focus group are discussed. At the beginning of a section the selected indicators are presented followed by the measurement and argumentation of choices.

3.2.3.1 Results Capacity building Focus Group 1

In the first focus group the following indicators were selected by the participants to be part of the monitoring system for the policy domain capacity building.

- *Number of Financial institution*; this are the financial indicators which provide a loan for renewable energy to people in developing countries.
- *Number of publicity campaigns*; this are the publicity campaigns which are done to increase the awareness of positive effects of renewable energy.
- *Number of country programs*; this are the number of national country programs which are developed with input from the executing partners
- *People trained*: the number of people trained by executing partners.

For the indicator *number of people trained* the participants suggested a subdivision in the type of training: training of a technician, a teacher, a minister. On top of that division they also suggested a division in the number of men which attended a training and the number of women which attended a training. The participants stated that it is important to monitor *gender* to be able to say something about empowering women. The participants are aware of the fact that this is just a minor part to be able to say something substantial about gender issues.

Because a lot of executing partners work in different countries the participants stated that it could be beneficial to divided *the number of new country programs* per country. The participants also stated that it would be good to make an extra subdivision in the *technology type* wherefore a country program is formulated.

In table 6 the result from the first focus group is presented, this matrix is used as input for the second focus group.

Table 6 Matrix for <i>Capacity building</i> after FG1					
	Solar energy	Wind energy	Hydro energy	Biomass	Geothermic
# new country programs					
Country 1					
Country 2					
Country 3					
# people trained total (min ... hours)					
	# Men	# Women			
Type of training 1					
Type of training 2					
Type of training 3					
# publicity campaigns done					
# financial institutions for a loan for renewable energy					

In the first focus group several indicators were excluded, a main reason for exclusion was the achievability of the indicators and representation of indicators of the interventions of the activities (an overview of all brainstormed concepts can be found in Annex 4). Quotes that came forward several times were: "*Maar hoe kunnen we dat weten*"? and "*Wat zegt dat nou*"? The participants excluded indicators because they were not practically achievable to monitor.

3.2.3.2 Results Capacity Building Focus Group 2

In reassessing the matrix (table 6), participants decided to exclude the indicator *number of financial institutions*. Participants agreed that *the number of financial institutions* was not a direct output; the programs do not contribute to the setting up of financial institutions. The presence of financial institutions that provide a loan for renewable energy is a very important condition to enlarge the number of people with access to energy. However the programs of DMW do not directly invest in these institutions, which is the reason for the exclusion of the indicator *financial institution*.

However participants formulated an additional indicator, *the number of new (Small and Medium Enterprises SMEs)*. This was seen as an important indicator for *capacity building* because of the target group, poor people. A successful SME can mean poverty alleviation, however the successfulness of a SME was seen as an impact indicator and was therefore not included in this monitoring system. The participants decided that the output was *the number of new SMEs* and that this should be measured

Some subdivisions of the matrix were also cut out: *technology type* and type of training

The following indicators were included by the participants in the monitoring system.

- *Number of publicity campaigns*
- *Number of national policy papers and action plans*
- *People trained*
- *Number of new SMEs*

The indicator *number of people trained* is divided by gender, because women participating in the trainings could be an indicator for the impact study and contribute to a conclusion about gender equity and the empowerment of women. An aspect of the indicator *number of national policy papers and action plans* will be the countries in which national policy papers and action plans are developed. This can give an impression of the average number of policy documents produced with contribution of the DGIS program. Table 7 shows an overview of the selected concepts.

Table 7 Overview of the selection of concepts FG1 and 2 for Capacity building

Concepts from FG1 and FG2	Indicators focus group 1		Indicators focus group 2	
	Subdivision of indicator in focus group 1		Subdivision of indicators focus group 2	
Capacity building				
Number of publicity campaigns	S		S	
National policy papers and action plans	S		S	
Financial institutions	S			
Number of new SMEs		N	S	
People trained	S		S	
Hours trained		S		
Type of training		S		N
Gender		S		S
Number of country programs	S		S	
MS = Monitoring system S = Selected N = Not selected				

3.2.4. Preserving biomass

Preserving biomass has the same intention as *capacity building*; the only difference is the specific focus: biomass. The goal of the domain *preserving biomass* is to build up a network or system in developing countries to produce biomass in a sustainable way. For example by setting up policy documents for sustainable supplying chains. For the policy domain only three indicators were formed:

- *Number of policy documents*: the number of policy documents which address the sustainable production of biomass.
- *Number of certifying systems*: the number of available or developed certifying systems could give an impression about the progress of implementation of the number of policy documents
- *Research done*: the amount of research which is done to contribute to a more sustainable way of producing biomass; i.e. a study about which crop is most suitable.

However there were specific remarks on including these indicators in the monitoring manual. The new trend is to let the national government do their own monitoring. Another argument was the Paris Declaration. In this declaration the donor countries decided to improve coherence, this also included the monitoring part of the interventions.

3.2.5. Policy influencing

After discussing the domain *policy influencing*, the group decided that this domain can not be monitored by executing parties. The domain *policy influencing* is executed by policy advisors of DMW. Through lobbying, giving speeches and attending meetings DMW attempts to influence actors like the EU en the World Bank to increase

investments in renewable energy. A success factor for *policy influencing* is hard to define. The policy advisors could write a report on their *policy influencing* activities and combine this together. This can provide an overview of the activities conducted to address the domain *policy influencing*. The group decided that it is not possible to quantify activities, this reporting will be qualitative.

3.3 Interview results

To get information about the opinion of two monitoring and evaluation expert interviews were conducted.

Interviewee 1 was a female which worked at an organization that is specialized in doing impact evaluations of policy programmes. She argued that the list of indicators is of importance however she had two remarks. She questioned if the indicators are sufficient to determine whether the execution of the policy is executed according to plan. The second remark was that the indicators should be defined using the SMART criteria.

Also an interview with a professor at the VU was conducted; he is connected to the IS academy which is a cooperation between the VU and DMW. For this IS academy three questions are formulated which address the PREP. The question he is concerned with is: *Hoe succesvol is het beleid tot op heden, en hoe meten we toekomstige effecten?* He argued that it would be good to include the goal which has to be achieved in the monitoring system to get a good overview of the progress. He also stated that it would be beneficial to monitor as long as possible. If possible, this could be beneficial for impact monitoring and to say something about the sustainability of the projects. He found it interesting to see that the manual included an ex-post measurement. He stated that it could be difficult to obligate executing parties to do an ex post measurement.

3.4 Remarks executing partners

All three executing partners who were asked to give feedback responded. In Annex 5 the remarks of the executing partners are displayed. In the following section the main remarks will be described. All three partners mentioned the measurement of SMEs; they suggest that micro enterprises are also important. They also state that it is difficult to measure SMEs, a quote: *“Wel worden aansluitingen op bedrijfjes apart geteld, dat kan in de praktijk wel eens moeilijk worden”*.

The representative of ETC had a remark about output monitoring. He stated that it conceptually not easy to make a portfolio wide output monitoring sheet. He stated that the monitoring sheet mainly entails outcome indicators from the point of view of project managers. He suggested that the monitoring should be more specific (See Annex 5). The executing partners did not made a comment on the not achievability of the monitoring system.

4.0 Conclusion

Two focus groups and two interviews are conducted to answer the main research question *“Which indicators are feasible to monitor effects on output level regarding renewable energy projects in developing countries?”*

During these focus groups and interviews, potential indicators were selected and defined, which are depicted in an overview of the monitoring sheet (Annex 2)¹. For the policy domain *‘direct investments’* three indicators were formed: *access to energy, produced power and consumed power*. For the policy domain *‘capacity building’* four indicators were formed by the participants: *the number of people trained, the number of SMEs trained, the number of policy documents produced and the number of publicity campaigns done*.

¹ After the two focus groups there were made some additional adjustment in the monitoring system. So it is possible that some indicators that were initially included during the focus group are not present in the displayed monitoring system.

At this point in time the number of people with *access to energy* is the only indicator which is centrally used as a measure to monitor effects on output level regarding renewable energy projects in developing countries. According to this study, this indicator needs adjustment.

The main reasons for inclusion of indicators were practical implementation of indicators and achievability of measurement and attributability of results of the activities. The main reasons for exclusion that measurement was non realistic and that results were not attributable. Initially three indicators were formed to monitor the policy domain '*preserving biomass*', however there were remarks by introducing an extra monitoring sheet to projects on this specific topic. Due to this remarks DMW has decided to exclude these indicators from the monitoring system.

The policy domain '*policy influencing*' is not included in the monitoring system because this domain is not executed by the executing partners. If this inclusion and exclusion criteria are compared to the SMART criteria almost all aspects are attended. The three aspects which are specifically mentioned are *measurable*, *achievable* and *realistic*. *Specific* and *time bound* are aspects which are named more implicit.

The selected indicators are feasible for several reasons; the first reason is that the monitoring system is practically applicable for the executing partners. Further the monitoring system gives a rather complete illustration on output level of all activities under PREP. The final reason is that the monitoring system gives a good foundation to report results to the Second Chamber and justifies means.

5.0 Discussion

This research contributes to a monitoring system for renewable energy projects financed by the Ministry for Development Cooperation. In this chapter the used methods and collected results are discussed.

Methods

In this research is chosen to select one group of participants which attends two focus group sessions. The composition of the group was homogeneous. However to prevent a flat discussion there was no homogeneity in attitudes (Morgan; 1997). Because all the participants work at the Ministry they could have had a certain bias. Participants knew on beforehand where the monitoring system would be used for and the goal of new monitoring system is to provide the Second Chamber and the Minister for Developmental Cooperation information about the progress of the program. Another element which is kept in mind by the participants is the Paris Declaration, in this declaration countries agreed on a more comprehensive approach in development cooperation. This also results in a more comprehensive approach in monitoring, so an additional monitoring system of DGIS is interfering with this agreement. This knowledge could have led to a monitoring theory within the participants; however it was not possible to include people who did not have this monitoring theory. The participants were the only people who knew how projects are executed and which indicators are feasible to monitor. However this monitoring theory is not limiting because the final product suited the assignment given by DMW party due to this monitoring theory.

Another reason to include employees of the energy department is that they are the ones who have to use the monitoring sheet eventually. Through participation of the employees in the development of the monitoring system there will be more acceptance of the proposed monitoring system. This also advocates the use of focus groups, since focus groups allow participants to react to and build on the responses of each other and on top of that differences in opinion among group member also help researchers to identify why participants embrace or reject specific ideas (Stewart; 2007). Bias by the facilitator is limited, however there is always the risk that the facilitator causes bias unknowingly by providing cues (Stewart; 2007). But bias is unlikely in this study as the researcher was not an employee of the Ministry for Development Cooperation.

In qualitative research the reliability is often discussed. To ensure reliability and validity of the focus groups the sessions are audio taped and transcripts were made. The results can not be generalized, however

generalization was not an aim of the research; the aim was to formulate feasible indicators for the PREP and not for other programs.

Results

As said before, the indicators were formed with input from the participants, who worked at the Ministry for Development Cooperation. After formulating the indicators and developing a monitoring format, the proposed monitoring format was presented to executing partners to give them an opportunity to give feedback on the system. By involving different stakeholders in the development of the monitoring system, acceptance is created for implementation of the system. This might be one step in creating a participatory monitoring system, with less resistance of stakeholders (Guba & Lincoln; 1989). However Annecke (2002) states that ideally indicator should be developed in collaboration with all stakeholders. Such an exercise should improve the quality of indicators. Annecke (2002) gives the following example: *"In an electrification programme, one of the indicators suggested by the implementer was the number of houses connected to the grid at the end of the project. The target group, on the other hand, suggested the indicators should be the number of households able to use the electricity."* In this research the target group is not involved in the development of the monitoring system. This might maybe be an idea for the future.

The framework of the assignment was very clear: the Ministry wanted a practical quantitative monitoring system which could entail output indicators. So the indicators which were formulated should measure output: indicating direct results from the implementation (Kusek & Rist, 2004). Setting up output indicators is the first step to be able to say something about the outcome and eventually the impact of an intervention. To be able to say something about the outcome of indicators new steps must be taken including formulating outcome indicators (Kusek & Rist; 2004). However the question can be raised if some indicators can already be seen as outcome indicators. For example the indicator *number of people with access to energy*. This may be interpreted as an outcome indicator. If projects for example invest in market development, the sales figures are direct results from implementation: output. The number of people with access to energy is the outcome of this type of activities. However because this monitoring system is used for all activities these program-specific characteristics can not be taken into account, but maybe the number of people with access to energy is more an outcome indicator than an output indicator. The number of *publicity campaigns done* for example is a more clear-cut output indicator. The outcome which can be linked to this indicator is the increased awareness of renewable energy in the target group.

Indicator characteristics

Dale (2004) states that important characteristics of indicators are: relevance, significance, reliability and convenience. Compared to the statement of the participants for reasons for in- and exclusion of indicators similarities can be found in characteristics of indicators. Participants for example stated that it must be achievable for the executing parties to collect the data. This is similar to the definition of convenience which is used by Dale (2004), *"The convenience of an indicator denotes how easy or difficult it is to work with."* If the indicator is easy to measure this will be a good characteristic for the indicator. The participants took the term *convenience* into account, for example by stating that the executing parties must have a limited extra effort to obtain information. Another similarity, with the characteristics of Dale (2004) is that the term *relevance* that can be compared to the meaning participants gave to criteria *'attributable'*. The meaning of this term is to what amount is the output related to the intervention financed by the financing institutes in this case the Ministry for Development Cooperation. The considerations of the participants for in- and exclusion will contribute to important characteristics of indicators. Dale (2004) also addresses reliability of results, indicators must be formulated SMART to ensure the reliability. Results are reliable if the information obtained by different actors is similar. It

must be clear for executing partners what needs to be measured. To ensure reliability, explanatory notes of the monitoring system will be sent to the executing parties.

The indicators which are formulated are quantitative. This provides numerical evidence on impacts and gives different information than qualitative results (Annecke; 2008). For example the number of people with access to energy, yields quite different results to asking qualitative questions about how the access to energy changed the live of the users. Sometimes there can be disapproval of protest on quantitative indicators because there is no quality aspect present in the indicators. In this monitoring system some indicators lack a quality aspect. However the indicators *access to energy* and *access to cooking* have a quality aspect: the lifespan of a device and the time per day which the devices work, so this might limit disapproval due to a lack of quality aspects. For the indicator *the number of people trained* no quality aspect is taken into account, to research the quality aspects of trainings an evaluation study might be a good option.

Monitoring approaches

In the article of Regeer et al. (2009) a distinction is made in different approaches to monitor sustainable development: (1) *progress assessment* which answers the question where do we stand, (2) *performance measurement* which answers the question what effects do the interventions have and (3) *programme theory evaluation* which answers the question why are certain interventions chosen. The monitoring system developed in this study has some features of progress assessment and performance measurement. The system can be linked to the question where do we stand for example in determining how much money is realized and the indicators under capacity building (See Annex 3).

The system can also be linked to the question what effects do the interventions have, for example measuring the 10 million output target. In the article of Regeer et al (2009) challenges for the different approaches are described. For progress assessment a challenge is participative development of indicators. This challenge is taken into account in this research by involving policy makers and executing partners in the development of the monitoring system. However in an ideal situation all stakeholders should be involved.

A challenge of performance measurement is to use the results of monitoring for programme management and not only focus on the end results of the program. The employees of DMW are aware of this pitfall and it is a challenge to keep this awareness in the future.

Political context

There are some remarks on monitoring at government level. A pitfall described by Patton (2002) is, that because governments use public funds for their investments and there is a pressure on justification those funds, some governments try to achieve politically desired results. When the focus is too much on politically desired results it is possible that the quality of results is diminished. However there is also an optimistic note in the field of monitoring at government level, Jafferjee and Salles (2007) argue that the Rome and Paris Declaration on aid effectiveness, led to increased and accountable monitoring and evaluation. Jafferjee and Salles (2007) state that these declarations put pressure on the member states to improve aid effectiveness through strengthening the responsibility and capacity of developing partners with the aim to act on greater alignment in the delivery of aid. In the context of this monitoring system also a pressure for justification is present. However during the focus group some indicators were excluded because the participants thought that this indicator will measure results which the investments of DGIS are not responsible for while this indicator could lead to a political desired result. Because the indicators are quantitative not much can be said about the quality of result, to overcome a lack of in-depth information big projects are evaluated frequently. A mid-term and end evaluation is done by objective researchers to be able to say something about the quality of results.

Practical implementation

The monitoring system should be used by employees of DMW and executing partners. Every year executing partners must fill in the monitoring system additional to the year reports. It is possible that due to high staff turnover within DMW the monitoring system will be 'forgotten'.

6.0 Recommendations

The current employees of DMW have a positive attitude towards the monitoring system and are willing to use it. However it is a challenge (for example due to high staff turnover) to make this monitoring format a standard monitoring tool for justification and process management. This could lead to possible lack of use by the employees of DMW. Therefore I recommend that the manual should be a part of an introduction package for new employees of the Environment and Water Department and that the monitoring system must be linked to annual reports of activities to make the monitoring system a standard annual procedure.

On this moment there is no clear definition on productive use and the measurement of productive use due to electrification. However productive use can be essential for economic development. In the future more research has to be done into criteria for productive use. Also further research is needed to link this monitoring system to an impact evaluation. Due to time restriction it was not possible to verify whether these indicators could be used for an impact evaluation.

Another recommendation is to keep the monitoring system up to date. An annual review of the monitoring system will be in place to guarantee an optimal monitoring system. An interviewee recommended to monitor projects as long as possible in time, to be able to say something about the impact. If financial resources allow this, constant monitoring can be beneficial on the long term to justify financial resources.

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Annex 1 Description of DGIS.

My internship placement is at the Ministry of Foreign Affairs, which is situated in The Hague. The Ministry of Foreign affairs is divided in several director generals, these director generals are divided in departments, which are divided in clusters (see figure 1). My placement at the Director General of International Cooperation (DGIS), at the Environment and Water Department (DMW) and in the Energy cluster.

Ministers

The Minister of Foreign Affairs is Maxine Verhagen; the Minister is responsible for foreign policy and must give account to the Parliament. The public servants serve him with the preparation and the execution of the policy. Bert Koenders is the Minister for Development Cooperation, the Minister does not have a separate Ministry, it is an integrated part of the Ministry of Foreign affairs. The public servants under DGIS are working for Minister Koenders especially. Frans Timmermans is the State Secretary of European Affairs, he support Minister Verhagen and is especially committed to certain issues. The Ministry of Foreign Affairs coordinates and executes the foreign policy of the Dutch government. The Ministry exists of a department in The Hague and embassies around the world (www.minbuza.nl).

Aim DGIS

The international community set eight Millennium Development goals in 2000; these goals should lead to reduce world wide poverty with 50%. The Minister for Developmental Cooperation, Bert Koenders, dedicates himself to improve the Dutch contribution. Minister Koenders states in his policy letter: *'Een zaak van iedereen, investeren in ontwikkeling in een veranderende wereld'*.

The Netherlands annually invests 0,8% of gross domestic product (GDP) on poverty reduction in developing countries. With these annual investments the Netherlands meets the international agreed norm; fifty percent of this means is invested in Africa. From the 0,8% of the GDP 0,1% is made available for environment and water which results in 580 million Euros a year.

Aim DMW

DMW is part of the DGIS and has to report to Minister Koenders. The aim of DMW is to integrate the theme of environment into all components of Dutch development cooperation and is concerned with the environmental dimension of poverty reduction (www.minbuza.nl). DMW contributes to poverty reduction through responsible usage and protection of environment and water, through adjustments to the negative effects of climate change and through investments in renewable energy. The cabinet made 500 million available for the period 2008-2011 to invest in renewable energy projects; 125 million from 0,1% of the GPD for international environment and an additional 375 million from the Cabinet. Due to the financial crisis the PREP is extended and will end in 2013. These means will be invested through bilateral, multilateral and particular channels. The Dutch energy policy focuses on a broad spectrum of energy utilization in developing countries; supplying households with electricity, modern applications for cooking and energy for small and medium enterprises as well as large scale energy projects. The energy cluster exists of 5 employees, me included. I share an office with three other trainees, which all work at DMW but in a different cluster.

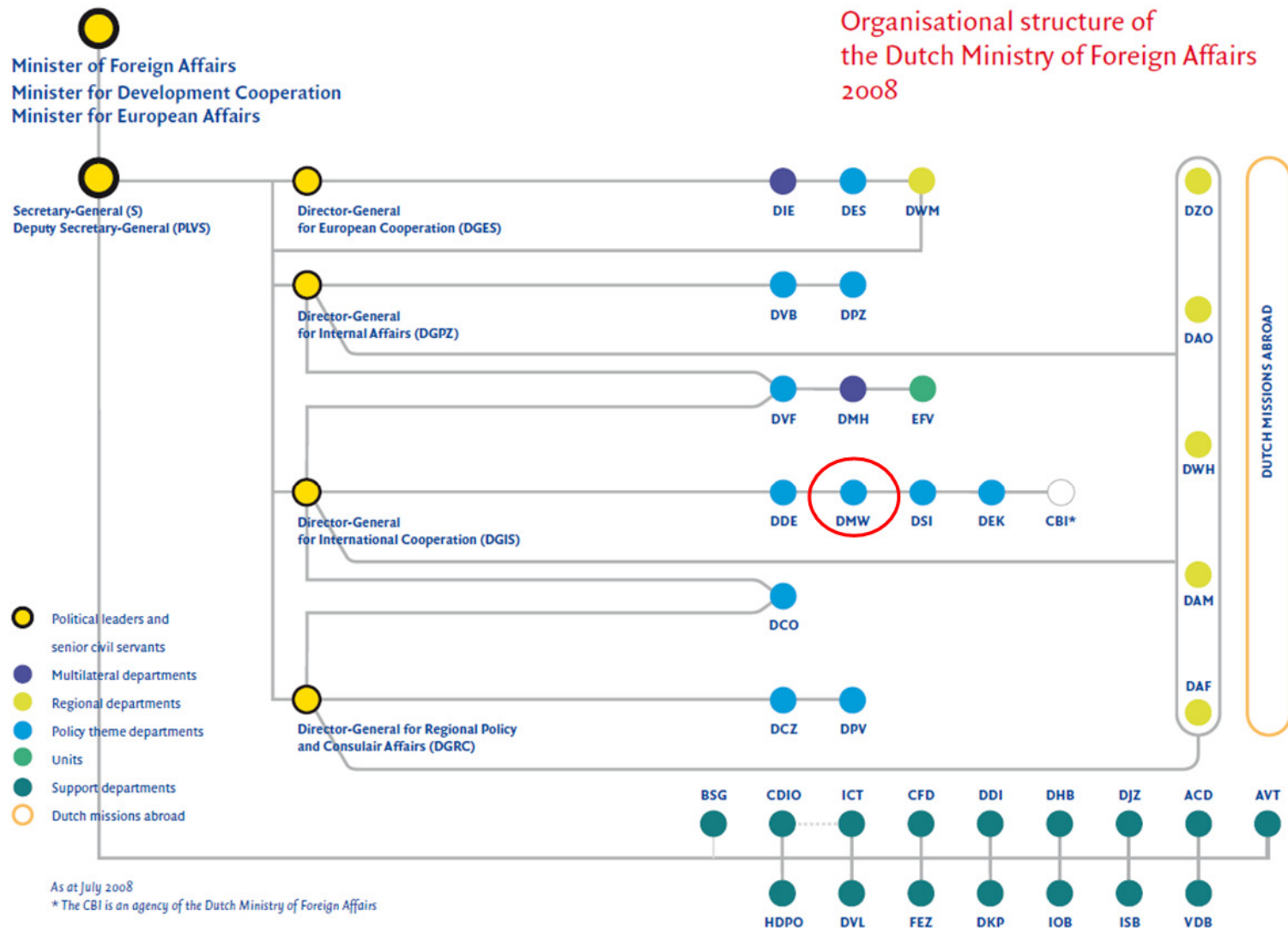


Figure A1: Organizational structure of the Dutch Ministry of Foreign Affairs (visit the website for additional information) (www.minbuza.nl)

Annex 2 Final Monitoring sheet

Activity Sheet Renewable Energy Projects							
Activity							
Activity number							
Date							
Reporting period							
Planning							
	Direct investments	Capacity building	Total				
Contribution DGIS	€ 0,00	€ 0,00	€ 0,00				
Contribution other ODA	€ 0,00	€ 0,00	€ 0,00				
Contribution non ODA	€ 0,00	€ 0,00	€ 0,00				
Total	€ 0,00	€ 0,00	€ 0,00				
Realization							
Direct investments							
	Planned Total	Realized Total	Additional Realized per year 2008	2009	2010	2011	2012
Access to Electricity							
# People		0					
# Social institution		0					
# SMEs (productive use)		0					
	Planned Total	Realized Total	Realized per year 2008	2009	2010	2011	2012
Improved cooking stove							
# People		0					
# Social institution		0					
# SMEs (productive use)		0					

<i>Power (kW)</i>	Planned Total	Realized Total	Realized per year 2008	2009	2010	2011	2012
Solar		0					
Wind		0					
Biomass		0					
Geothermal		0					
Biogas		0					
Hydro		0					
Total		0					
Capacity building							
	Planned	Realized Total	Realized per year 2008	2009	2010	2011	2012
# people trained total (Except entrepreneurs)		0					
# men		0					
# women		0					
Total		0	0	0	0	0	0
# entrepreneurs trained		0					
# men		0					
# women		0					
Total		0	0	0	0	0	0
# new policy documents and action plans		0					
Countries with new policy documents and action plans							
# <i>publicity campaigns done</i>		0					
Realization costs							
	Total	2008	2009	2010	2011	2012	
Euro's invested in Direct Investments	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	
Euro's invested in Capacity building	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	
Indirect costs	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	
Total	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	

Annex 3 Monitoring manual

1. Introduction

During the cabinet period 2007-2011 the Dutch Government has made the provision of access to renewable energy to people in developing countries a special policy priority. In addition to the running development budget for energy access (125 million Euros), the cabinet allocated an extra sum of € 375 million to renewable energy projects (Een zaak voor iedereen 2008). This brings the total budget allocation for renewable energy in developing countries to 500 million Euros.

The Dutch government's energy and development policy (Beleidsnotitie Milieu en Hernieuwbare Energie in Ontwikkelingssamenwerking 2008) spells out that the overall objective is to further stimulate the use of renewable energy in developing countries. The following four lines of action are taken in order to achieve the objective:

- 1) Direct investments in renewable energy installations;
- 2) Ensuring the sustainability of biomass production for energy purposes;
- 3) Influencing policy of important actors in the field of energy;
- 4) Capacity development in the field of renewable energy.

The geographic focus for the new interventions is on the current Dutch partner countries, with specific focus on Africa. The implementation of the various interventions is carried out by established partner organisations and through existing financing mechanisms where possible. The implementation also follows the principles of the Paris Declaration (2005) on donor harmonisation.

At present there are several monitoring activities carried out by DGIS/DMW. These include:

- Regular monitoring of the individual energy projects, like all other DGIS funded projects, through the PIRAMIDE system on the basis of the annual plans and reports. Part of this regular monitoring system is the organisation of in-depth evaluations of selected energy projects;
- DMW annual results monitoring;
- Monitoring of the achievement of *access to energy* to 10 million people in developing countries by 2015 as a Dutch contribution to the UN Millennium Development Goals;
- IOB impact studies of 5-6 selected energy projects;
- In depth studies of impact of energy projects by the IS academy.

Since the Dutch government has accorded a special policy priority to the stimulation of the use of renewable energy access the need arises for an additional monitoring mechanism that would provide quick and up-to-date information of the entire PREP at policy level.

This policy monitoring system is designed to generate aggregated information at the level of project output achievement, measured with the help of a number of selected output indicators. The aggregated data are used to give the Minister for Development Cooperation and the Netherlands parliament an overview of the progress on output of PREP. The information shall be compiled on an annual basis and then aggregated and analysed for the entire PREP of DGIS/DMW.

The objectives of the PREP monitoring system of the energy projects are to establish:

- A readily available information base to assess periodic progress on the policy objectives;
- An annual analysis of progress for the purpose of readjustment, if needed;
- A data compilation for a portfolio review to be carried out at the end of the funding period.

2. Output Monitoring Procedures

The activity monitoring format (see Annex 4.2) proposes a number of key output indicators selected per policy objective. As part of the annual reporting mechanism, the partner agencies provide information on the selected output indicators in addition to the regular annual reports. In general this information already should be provided in the annual reports, so that it is mainly a matter of providing information on the output indicators in the format of an overview of table.

Every year one of the policy advisors will compile the information of all energy project output monitoring sheets in one overview sheet.

In addition, the policy advisors, in collaboration with the entire energy team, will compile a short summary analysis in text form that summarizes the major energy policy level developments in the preceding year, at project level, where possible per country, and in general (WB, EC-Africa Energy Partnership, EU Energy Initiative, bilateral Dutch-German energy partnership, etc.). Once the analysis is complete, the energy team will discuss progress and necessary readjustments.

The summary monitoring sheet and report at the end of the funding period will also contain information of the sustainability of the projects. The projects will provide measurements of all connections functioning at the end of the funding period. The respective project is seen as sustainable if at least 75% of the connections are still functioning.

3. Definitions

For the purpose of this manual the key terms are identified.

3.1. General definitions

Activities	Actions taken or work performed (projects or programs) through which inputs such as funds, technical assistance and other types of resources are mobilized to produce specific outputs (OECD-DAC, 2002).
Baseline	Facts about the condition or performance of subjects prior to treatment or intervention (OECD-DAC, 2002).
Baseline study	An analysis describing the situation prior to a development intervention, against which progress can be assessed or comparisons made. Baseline data can be quantitative as well as qualitative (OECD-DAC, 2002).
Data	Specific quantitative and qualitative information or facts
Evaluation	A time-bound exercise that attempts to assess systematically and objectively the relevance, performance and success, or the lack thereof, of ongoing and completed programs. Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or program managers, and to provide

	information on whether underlying theories and assumptions used in program development were valid, what worked and what did not work and why. Evaluation commonly aims to determine the relevance, validity of design, efficiency, effectiveness, impact and sustainability of a program.
Impact	Positive and negative long term effects on identifiable population groups produced by a development intervention, directly or indirectly, intended or unintended. These effects can be economic, social-cultural, institutional, environmental, technological or of other types.
Indicator	A quantitative or qualitative measure of program performance that is used to demonstrate change and which details the extent to which program results are being or have been achieved. In order for indicators to be useful for monitoring and evaluating program results, it is important to identify indicators that are direct, objective, practical and adequate and to regularly update them.
Input	The financial, human, material, technological and information resource provided by stakeholders (i.e. donors, program implementers and beneficiaries) that are used to implement a development intervention
Monitoring	A continuous management function that aims primarily at providing program managers and key stakeholders with regular feedback and early indication of progress or lack thereof in the achievement of intended results. Monitoring tracks the actual performance against what was planned or expected according to pre-determined standards. It generally involves collecting and analyzing data on program processes and results and recommending corrective measures
Outcome	The intended or achieved short and medium-term effects of an intervention's outputs, usually requiring the collective effort of partners. Outcomes represent changes in development condition which occur between the completion of outputs and the achievement of impact.
Output	The products and services which result from the completion of activities within a development intervention.
Renewable energy	Energy generated from renewable sources, like solar energy, hydro energy, wind energy, biogas, geothermal heat and sustainable produced biomass

3.2. Definitions used for the reporting format

Sustainability	<p>The sustainability of the installations built during a project intervention denotes the level of prospect for a future functioning of these installations and their support systems after project intervention has ended.</p> <p>Installations, SMEs, etc. established through project intervention are considered sustainable if more than 75% of the units established during the entire project period are still operating at the end of the funding period.</p> <p>If between 50 and 75% are still operating at the end of the project period they are considered as medium sustainable.</p> <p>If under 50% of them are operating at the end of the funding period they are considered as not sustainable; in this case remedial action must be taken to improve their level of sustainability.</p>
Direct investments	The planned investments in hardware, related to renewable energy technology.

Capacity building	The planned investments in capacity building; this includes planned costs for trainings, courses, publicity campaigns, the set up of businesses and the development of national and regional policy documents.
Contribution DGIS	The amount of money invested in a project from DGIS funds
Contribution other ODA	The amount of money invested in a project from ODA countries other than the Netherlands
Contribution non ODA	The amount of money invested in a project by beneficiaries, national governments, banks, etc.
Electricity access people	Lighting for minimal 5 <i>hours</i> a day, with a device which has a minimal lifespan of 2 years
Cooking access people	Cooking refers mainly to improved stoves of different types; an improved stove must save at least 35% fuel wood
Household size (HHS)	It is assumed that an average household consists of 5 persons
Lifespan	The time a renewable energy installation or appliance is functioning. The minimal lifespan of an appliance should be two years.
Social Institutions	Social institutions in this context are school, hospitals or other communal institutions like prisons etc.
Small and Medium Enterprises (SMEs) (Productive use of energy access)	Local businesses which are connected to renewable energy.
<i>Power</i>	Mechanical force developed by the motive <i>power</i> installation in a vessel (OECD) http://stats.oecd.org/glossary/detail.asp?ID=4324), measured in kW

4. Explanatory notes for filling in the monitoring sheets

The monitoring sheet lists the output indicators, divided per policy objective. In case an individual project does not aim at achieving one or more of these policy objectives the respective indicator is not applicable, hence the partner agency leaves a blank field.

1. Number of people with new access to energy

Counting Modality for the Number of People who received Access to energy

1. Access to Electricity:

People: the following formula should be used to determine the additional number of persons receiving access: $\text{people who have access to electricity} = \# \text{ electrified HH} * \text{HHS} * \text{lifespan}$.

The lifespan is 1 when a device lasts a minimum of 2 years. If a device is operating for 1 year only the connection will be counted as 0,5. For example if a device lasts for 3 years and 5 households are connected the formula can be filled in $5*5*1= 25$ people.

Social institutions = # of additional social institutions supplied with electricity

SMEs (productive use) = # of additional SMEs which can operate as a results of electricity.

2. Improved Cooking stoves: The following formulas should be used:

People with improved cooking stoves = # HH with an improved cooking stoves * HHS.

Social institutions = # additional social institutions with an improved cooking stove.

SMEs (productive use) =: the number of new local enterprises/SMEs which use improved cooking stoves

3. Power

2. Capacity building

Capacity building:

Activities regarding training courses, publicity campaigns, the set up of businesses and the development of national and regional policy documents.

1. # people trained:

please note the number of people who attended a course or received training, please specify by gender.

Please do not include training of entrepreneurs.

2. # entrepreneurs trained:

please note the number of entrepreneurs who attended a course or received training, please specify by gender.

3. # new policy documents and action plans:

please note the number of national or regional policy documents and action plans at government level that are developed with support of the program.

Please note under 'countries' the countries for which the documents are developed.

4. # publicity campaigns done:

please note the number of *publicity campaigns done* regarding renewable energy use.

Realization costs

Euros spent on Direct investments: please note the amount of money which is used for hardware

Euros spent on capacity building: please note the amount of money which is used for capacity building activities (see definition above)

Indirect costs: overhead costs + staff expenses

Annex 4 Focus group report

During the first and second focus group the ambiance in the room was good. The participants let each other speak without interpreting. The participants were placed at a round table to stimulate discussion and to make the participants feel of the same value. In figure ... a map of the room is illustrated.

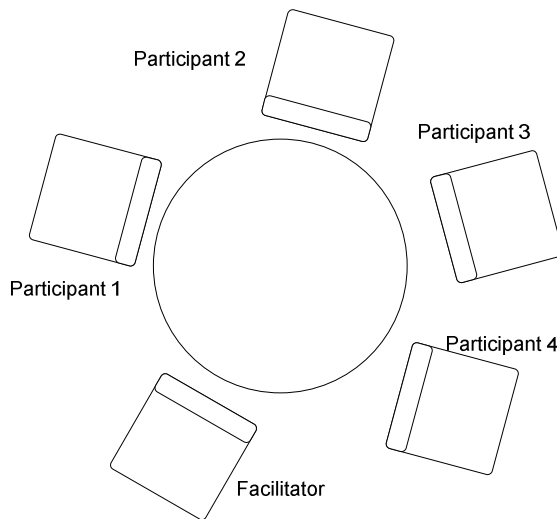


Figure A4 Map of the room

In the first focus group relatively a lot of time was spend on the policy domain direct investments. The other domains were not attended extensively. In the second focus group however the facilitator made time available to discuss these domains in more detail.

De participants react positive on both focus group, they said the focus group were well prepared. The participants found it useful to brainstorm concepts in the first focus group and go more into dept in the second focus group.

During the brainstorm phase in the first focus group 19 concepts were collected for the policy domain direct investments, relating to indicators for the policy domain *direct investments*. Fourteen out of the 19 concepts were input from the participants. The facilitator proposed the other 5 concepts (f). The following concepts were collected:

- | | | |
|-------------------------------------|-----------------------|----------------------------|
| - Kilowatt | - Household level | - Target group |
| - Kilowatt hour | - Cooking | - Costs per connection (f) |
| - Label (f) | - Lighting | - KWH per country |
| - Euros leveraged | - Social Institutions | - Application |
| - Needs | - Productive use | - CO2 reduction |
| - Technology type | - New connections (f) | |
| - % KWh fossil versus renewable (f) | | |
| - % euros invested in hardware (f) | | |

In the next phase the concepts were discussed and clustered. The cluster and prioritize phase could not be easily divided, because the group clustered the concepts in indicators, features of indicators, units to measure indicators, definition for indicators and excludable concepts, the selected indicators are described in Chapter 3.2.2.1.

For the policy objective *capacity building* the following concepts were mentioned during the brainstorming phase in the first focus group:

- *Technicians trained*
- *Number of publicity campaigns (f)*
- *Gender*
- *Number of universities*
- *Financial institutions (f)*
- *Hours trained*
- *Number of new SMEs*
- *Knowledge in target countries*
- *People trained*
- *National policy papers and action plans (f)*
- *Number of additional jobs (f)*
- *Number of successful SMEs*
- *Number of country programs*

In the result section (Chapter 3) the selected indicators are described.

Annex 5 Response executing partners

Comments from GVEP International on the DGIS Monitoring Sheet

No.	Point	Comment
1	3.1 General Definition Evaluation Impact Monitoring Outputs and outcomes	<p>Maybe good to incorporate 'mid term evaluation' as against 'end of term evaluation'. Often, a mid term evaluation is best to mitigate risks, problems, issues early on.</p> <p>Would be good to state number of years for 'long term'. My suggestion is at least 4-5 years to evaluate impacts (if figures needed, projective impacts may be realistic), <i>outputs</i> need to be immediate, objectively verifiable and <i>outcomes</i> can be measured (quantitatively or qualitatively) within 1-2 years.</p> <p>I believe that monitoring should not be a 'management' only function as defined. It needs to be integrated by teams implementing the project and programmes so that everyone is aligned to what needs to be achieved in terms of outcomes and impacts.</p> <p>May suggest that outputs are objectively verifiable (quantitative) and outcomes can be both qualitative (drawing references) and quantitative.</p>
2	3.2 Definitions used for reporting format Sustainability Direct Investments Biomass Cooking access people	<p>This is tricky. It is easier to quantify sustainability for SMEs but what about capacity building? One could use skills gained 2-5 years down the line for example depending on other factors needed such as finance for enterprises etc. May I suggest that some 'projected figures' may be put as proxies?</p> <p>Is this direct investments 'financial' only? If so, maybe state that clearly.</p> <p><i>'The planned investments in preserving the production of biomass for energy purposes'</i>. Should this be 'only those resources that preserves and produces for energy purpose'? The defined 'planned investments' makes it a bit confusing?</p> <p><i>'Cooking refers mainly to improved stoves of different types; an improved stove must save at least 35% fuel wood'</i>. This is a limited definition as cooking could involve use of briquettes, LPGs etc.</p>

No.	Point	Comment
	Household Size	Propose to widen the definition a bit.
	Social institutions	This indicator can be highly variant depending on culture and social settings of various geographical regions. I think limiting to 5 confines this indicator! Should be left open as per regional or country variations?
	Small and Medium enterprises	Suggest including 'community halls'. Also, how about public institutions such as government halls used by communities, public offices connected etc?
	Power	Suggest including micro enterprises. So, it would be MSMEs (Micro, Small and Medium enterprises). Micro would be those that are run by single or a few entrepreneurs, usually below investments of US\$1000. I would also separately define ' <i>Productive use of energy access</i> ' as 'energy produced utilised or maximised for income generative purposes.' ' <i>Mechanical force developed by the...</i> ' Should this not include electrical? I would see the current definition restricted to mechanical energy only.
3	Section 4. Explanatory Notes 1. Direct Investments # SMEs (productive use)	This definition is limited to the consumptive use of electricity and cooking stoves by SMEs. However, the addition of SMEs and productive enterprises or uses resulting from the project or programme is not being detailed anywhere. Maybe, a separate indicator for this is required. Such as MSMES trained, start ups, diversification etc?
	Access to electricity	As per comments above, it would be good to see '# of public institutions' as well as this is quite common.
	Power and Consumed Power	This is focussed only on mechanical and electrical energy interventions. How about energy efficiency? Improved woodstoves etc? Is this going to fit in with biomass? If so, this cannot be easily converted to kW?! Some other quantification may be needed for biomass. Similar with biogas for cooking? Also, don't see biofuels..is this integrated with biomass?

No.	Point	Comment
	Section 4..contd 2. Capacity Building # of new policy documents and actionplans # of publicity campaigns	<p>Number of people with raised awareness on energy access may be a good indicator as well? Often, this is underplayed but we are learning that this is prime if new energy products are to be utilised.</p> <p>This should be a different category altogether considering that influencing policy is one of the major lines of action for DGIS? Policy and capacity building are quite strong categories on its own.</p> <p>Does this then include public awareness campaigns?</p>
	Section 4..contd 3. Final output	Maybe add: <ul style="list-style-type: none"> - Number of people with increased skills - Number of people with increasing incomes/ employment - Number of people with efficient energy usage
	Section 4..contd 2. Capacity Building	<p>Ex-post. Who will carry out this ex post analysis? 5 years after the project..does this need to be budgeted by the Institutions/ Organisations carrying out the programme?</p>

Any other Comment:

- ⇒ I don't see a gender based differential data sheet. Some inclusion of this, at least in an indicator would be essential.
- ⇒ Also, if this was a template, is it best to have Realisation (Excel sheet) Years not defined as 2008, 2009 etc but as Year 1 of Project (in brackets whichever year..) and so on?
- ⇒ Indicators for action line 'biomass production' seem to be co-related mostly to cookstoves. Suggest that this be broadened. What about woodfuel lots, briquetting from waste biomass resources etc?

Comments from ETC International foundation

Dank voor het document. Ik vind het leuk om even informeel mee te denken. Ik heb twee hoofdpmerkingen/suggesties, die voortkomen uit ons intern proces en interne discussies over "monitoring op maat".

1. De eerste gaat over de output monitoring. Het is conceptueel niet gemakkelijk om een brede output monitoring sheet te maken die breed past op energie projecten.

Dit o.a. omdat de verschillende kanalen voor OS een specifiek ander mandaat en daarmee specifiek andere output doelstellingen,

=> overheidskanalen (bilateraal, multilateraal) opereren met name in beleids kader en kader financiering voor de (overwegend private) energie markt: output is beleid en gebruik van ondersteunende diensten

=> civil society kanalen (zoals MFS, HIVOS en SNV?) opereren met name in capaciteitsopbouw, beïnvloeding/stimulering van overheden en private sector, en sommigen kiezen er voor om in aanvulling op private sector en overheidssector directe hulp te leveren (bijv. biogas programma Afrika): output is beïnvloeding van markten en overheden, en capaciteitsopbouw in lokale civil society

=> private sector kanalen (bijv. Schokland, misschien moet je zo biogas Afrika benoemen?) opereren met name in markt ontwikkeling voor producten, diensten en financiering: output is verkoop cijfers en after sales statistieken.

Behalve het private sector kanaal, zijn de indicatoren in de monitoring sheet voor de project uitvoerders eigenlijk vooral outcome indicatoren (met generieke output indicatoren onder 2 cap building, input indicatoren onder 3). Dat zou dus voor de projectuitvoerders met name eisen stellen aan hun outcome monitoring. Wij proberen dit te doen maar het levert een serieus attributie probleem op. Vanuit de realiteit van de kanalen moet je dus een manier vinden daarmee om te gaan en zo dubbeltelling te voorkomen (en te voorkomen dat bepaalde access wel heel goedkoop en op heel grote schaal gerealiseerd wordt). Werken met impact tov een baseline is vaak in de praktijk overigens erg moeilijk omdat de projectinterventie vaak langdurig is en dus moeilijk te isoleren van allerlei andere dingen die gebeuren. Soms moeten er misschien extra studies gedaan worden om de indicatoren te verzamelen.

Ik denk dat de angst t.o.v. "output based aid" ook is dat de monitoring blind kan zijn voor het bredere maatschappelijke proces dat nodig is om een energiesector te laten ontwikkelen (de drie kanalen zijn alle drie nodig). Terwijl ik het ermee eens ben dat het goed is om projecten in de doelstelling op aantallen installaties te richten, denk ik dat de monitoring eigenlijk specifiek zou moeten zijn.

Mijn suggestie zou daarom zijn om naast de outcome ook het niveau output te monitoren, specifiek voor de interventie strategieën van de verschillende kanalen. Mijn tweede suggestie zou zijn om bij de input indicatoren ook de investeringen per connectie van derden en de eigen bijdrage van de eindgebruiker op te nemen. Dat zou een handvat kunnen geven om met attributie om te gaan (door relatieve bijdrage van DGIS als sleutel te nemen).

2. De tweede opmerking gaat over kwalitatieve indicatoren in de monitoring

Dit heeft niets te maken met de moeite van het invullen, maar meer over wat ik zelf (als ik me in jullie schoenen verplaats) zou willen weten.

Kwalitatieve indicatoren proberen iets te zeggen over de impact van het project in het bredere ontwikkelingsproces van een land. Wij proberen zo altijd "gender", "sustainability", en "risico's" op te nemen. Je kunt ervoor kiezen om dit niet in de monitoring sheet op te nemen. Maar, vanuit het grote belang en de bredere visie die in de beleidsnotitie van de minister aan dit soort indicatoren wordt toegekend, zou het misschien aan te bevelen zijn een paar simpele indicatoren hierover in de sheet op te nemen. Dat is ook de centrale gedachte van ENERGIA in haar gender mainstreaming aanpak: om dat goed te doen moet je expliciete gender indicatoren opnemen in de monitoring op het hoogste niveau.

Tot slot een paar kleinere opmerkingen (die wel bekend zullen klinken):

1. "power (kW)" en "consumed power (kWh)" zijn vanuit ontwikkelingsperspectief niet zo interessant. Het gaat meer om energie diensten die geleverd worden (koken, aantal lampen/lichturen, TV, maismolens, ploegen, ha ge-irrigéerd, etc). En dan liever met efficiënte apparatuur om met de investering zoveel mogelijk mensen te bereiken.
2. van "access to electricity" weten we uit de EASE studie periode (tijdens MFS) dat access niet automatisch leidt tot zinnig gebruik. Use of electricity zou een betere zijn, zoals bij cookstoves heel terecht wel staat (overigens heel moeilijk vast te stellen).
3. bedoel je met "SMEs operation" specifieke job creation in de energie sector ? Overigens zijn het in onze ervaring bijna altijd "micro enterprises" ipv SMEs. Wel zijn er economen die beweren dat SMEs meer bijdragen aan ontwikkeling dan micro enterprises, maar dat is een andere discussie.

Ik besef me dat ik een beetje uitgebreid heb gereageerd. Dat heeft te maken met enthousiasme en het feit dat de documenten die op tafel liggen een goede aanzet geven om op verder te denken. Hopelijk kunnen jullie iets met deze opmerkingen en gedachten. Als er vragen zijn hoor ik dat graag.

Comments from the Dutch Embassy

- er wordt ook gemonitord op capaciteitsopbouw. Mij is niet duidelijk of we daar nu juist wel of geen geld aan willen besteden. Ik meende begrepen te hebben dat de 500 mln voor resultaten is: MW, aansluitingen, biomassa.
- er wordt geen onderscheid gemaakt tussen ruraal en urbaan, en tussen on en off grid. Dat vind ik goed want het is eigenlijk onzin om dat onderscheid te maken, maar van DMW meende ik steeds begrepen te hebben dat ruraal en off grid de voorkeur verdienen.
- wel worden aansluitingen op bedrijfjes apart geteld. Dat kan in de praktijk wel eens moeilijk worden. Des te kleiner ze zijn (en dus des te relevanter voor directe armoedebestrijding) des te meer gaan ze op in een gewone aansluiting (extra peertje voor winkeltje aan huis dat 's avonds open is, extra veel energieverbruik voor zaagmachine aan huis, etc). En waar komt die extra wens vandaan en waarom wordt dat opgelegd aan een toch al ambitieus programma? Ik snap wel dat het van belang is, maar beter is dan om het op een hoger niveau op te lossen: hoeveel draagt elektriciteit bij aan economische ontwikkeling (op basis van cijfers), hoeveel aansluitingen leiden gemiddeld tot bedrijvigheid.

Ten slotte mijn echte zorg:

- de samenhang tussen aansluitingen en hoogspanningslijnen enerzijds en de investeringen in duurzame opwekking anderszijds komt niet uit de verf. Daardoor is er een risico dat de aansluitingen in Rwanda niet goed gaan scoren (hoewel ze de opwekking door de private sector mogelijk maken) en een nog groter risico (omdat die over de hoofden van mensen heen gaan) dat de interconnecties niet goed scoren (hoewel ze een voorwaarde zijn voor grootschalige investeringen in hernieuwbare energie en voor energievoorzieningszekerheid).